

**2012-2013
Masters Program in Translational
Biotechnology
Academic Assessment Plan**

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*Office of the Provost
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Institutional Assessment
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Academic Assessment Plan for Masters Program in Translational Biotechnology

College of Medicine / College of Business

NOTE: This is a blank template. Institutional Assessment has prepared specific templates for each degree program that contain pre-loaded information. Please use the specific template for your program. If you did not get one, please contact your SACS Coordinator for your College.

Instructions: Use this template to prepare your Academic Assessment Plan.. Refer to pages 1-5 of the instructions for descriptions of each section.

A. Mission

To provide a Masters-level graduate program to serve students who seek an advanced degree beyond a B.S. to meet their career goals, but who do not need a Ph.D.-level program. Courses incorporated into this unique Program encompass biotechnology science together with regulatory compliance and best business practices. This two-year thesis program is interdisciplinary (biosciences and business), is research intensive, has deep industry involvement, and includes a formal internship at a company. Students graduate with a major (Master of Science in Medical Sciences) and a minor in business administration (Graduate Business Minor).

Goals:

- 1) To provide high quality research training and a substantial hands-on research experience to students.
- 2) To provide quality classroom instruction in in product development, regulatory compliance (cGMPs/GTPs/GLPs/GCPs), quality systems (Quality control and Quality Assurance), process development, analytical product testing, and biomanufacturing, along with best entrepreneurial business practices. Other features of the program are the infusion of personal and professional skills (communication, documentation, teamwork, interviewing, work ethic, etc), ethics and responsible conduct of research, and international perspectives.
- 3) To Provide an internship experience

B. Student Learning Outcomes and Assessment Measures

Student Learning Outcomes	Delivery Mode	Assessment Method
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<p>A. Knowledge - 1) Students will identify and explain core knowledge in biotechnology science together with regulatory compliance and best business practices. Students will apply core knowledge to a set of accepted “facts” and derive a hypothesis which is testable with current technologies using the scientific method. Students will articulate current best practices and explain or show how they will be implemented under several different scenarios.</p> <p>2) Students will identify and explain discipline-related knowledge required for completion of their M.S. thesis research.</p>	<p>Campus</p>	<p>1) Knowledge will be assessed by written examinations, homework assignments, and oral examinations in courses. Oral assessment will take place during regular meetings with the student’s graduate supervisory committee.</p> <p>2) Discipline-related knowledge will be assessed during regular meetings with the student’s graduate supervisory committee. These meetings will take place every 6 months and culminate in the student’s final thesis defense.</p>
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<p>B. Skills - 1) Students will read, interpret, and critically evaluate published literature in their fields. Students will present a concise summary of reading assignments from the primary scientific literature, they will describe the purpose of the study, the methods of the study, the findings of the study, the conclusions of the authors, The students will enumerate new and important (not trivial) scientific questions raised by the particular study, and provide their approach for further investigators of the topic</p> <p>2) Students will follow experimental protocols reported in the literature or established in their laboratories. Students will follow instructions correctly and demonstrate expertise in using an analytical balance correctly as well as liquid handling equipment and application of appropriate laboratory and work place safety protocols and use equipment that may be appropriate for the task at hand. Students will be proficient in common techniques in their fields. They will demonstrate accuracy and confidence in executing protocols and procedures. Students will analyze the results of their experiments and report these results both orally and in written reports in clear and complete manners. Students will critically evaluate</p>	<p>Campus and Host Company</p>	<p>1) Students will give oral presentations of recent literature in their fields in Journal club courses. Their knowledge will be assessed by faculty and peers during these presentations, and students will be provided with critiques of their performance. Students will be required to enroll in one journal club every semester.</p> <p>2) The ability of students to follow experimental protocols, perform established techniques, and analyze results will be assessed on a regular basis (every 6 months) during supervisory committee meetings in which students will orally present their work and findings to the committee. Writing skills will be assessed by evaluation of the student's written work in courses and in the M.S. thesis by the supervisory committee.</p>
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their own work and point out its strengths and weakness in written and oral communication mediums.

3) Students will make contributions in a company setting during their internships. Students will provide a quality work product, work effectively in an industrial setting, and make significant contributions to the organization with whom they are interning.

3) written feedback from internship supervisor along with a student-written report will be included in the assessment.

<p>C. Professional Behavior - 1) Students will demonstrate professionalism in oral presentations required for journal clubs and the final defense. Professionalism is being prepared, speaking clearly and communicating abstract ideas, responding to questions from the audience and providing appropriate responses to questions from the audience citing appropriate background material and in some cases students synthesizing new relationships and insights resulting from interactions with the audience.</p> <p>2) Students will demonstrate professional conduct in performing research including following appropriate safety and regulatory rules, and demonstrating ethical conduct in research. Students will adhere to Federal, State, University, and Industry safety laws and standards.</p> <p>3) Students will demonstrate personal and professional skills. Students will be effective in their communication, record and document their research activities in a way that will allow reconstruction of the experimental details by a third party. They will work effectively with others</p>	<p>Campus and Host Company</p>	<p>1) The student's primary research advisor, supervisory committee, and other faculty and peers who attend the student's presentation will provide the student with an evaluation of his/her professionalism in oral presentations.</p> <p>2) The student's primary research advisor and supervisory committee will evaluate the student's professional conduct in research during the course of the student's regular supervisory committee meetings which will be held every 6 months. The student's adherence to safety and regulatory rules will be assessed by the student's research advisor in the laboratory setting.</p> <p>3) Feedback from internship companies and college faculty will provide an evaluation of personal and professional skills.</p>
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and present themselves professionally in an interview setting.

C. Research

All of our Masters students are exposed to quantitative and qualitative research methods and assessment of the literature. The students engage in active research for their entire first year and in the Fall and Spring semesters of their second year under the direction of a College of Medicine faculty member. The students are required to incorporate their research into a thesis that they defend prior to the start of their internship. In the summer of their second year, they participate in an internship at a company of their choosing.

D. Assessment Timeline

Program: Masters in Translational Biotech _____

College of Medicine/College of Business _____

Assessment	Assessment 1	Assessment 2	Assessment 3	Enter more as needed
SLOs				
Knowledge				
#1	End of course exams throughout 2 year program			
#2	Every 6 months throughout the 2 year program			
Skills				
#1	Throughout the 2 year program			
#2	Every 6 months throughout the 2 year program and during internship			
#3	Internship during summer of 2 nd year			
Professional Behavior				
#1	Throughout the 2 year program			
#2	Every 6 months throughout the 2 year program and during internship			
#3	Throughout the 2 year program and during internship			

E. Assessment Cycle

Use this Assessment Cycle template for your plan. Add or delete rows as needed to accommodate your SLOs.

Assessment Cycle for:

Program: Masters in Translational Biotech

College of Medicine/College of Business

Analysis and Interpretation:

Program assessment is on-going throughout the year with more in-depth review every two years.

Program Modifications:

Completed by August 1

Dissemination:

Completed by August 1

SLOs	Year	10-11	11-12	12-13	13-14	14-15	15-16
Content Knowledge							
#1		X	X	X	X	X	X
#2		X	X	X	X	X	X
Skills							
#1		X	X	X	X	X	X
#2		X	X	X	X	X	X
#3		X	X	X	X	X	X
Professional Behavior							
#1		X	X	X	X	X	X
#2		X	X	X	X	X	X
#3		X	X	X	X	X	X

F. Measurement Tools

The knowledge SLO's are assessed by written examinations in each course and progress on the research project. Research and professional skills are assessed by the mentor, thesis committee, faculty and peers, oral presentations, and during the internship.

G. Assessment Oversight

Name	Department Affiliation	Email Address	Phone Number
Richard O. Snyder, Ph.D.	Molecular Genetics and Microbiology	rsnyder@cerhb.ufl.edu	386-418-1642
Paul Gulig, Ph.D.	Molecular Genetics and Microbiology and Dean's office College of Medicine	gulig@ufl.edu	352-294-5544
Henry V. Baker, Ph.D.	Molecular Genetics and Microbiology	hvbaker@UFL.EDU	(352) 273-8111
John Kraft, Ph.D.	College of Business Administration	john.kraft@warrington.ufl.edu	(352) 392-2398

Appendix A. Sample rubric (supervisory committee report form): Supervisory Committee Meeting: Summary from Mentor

Supervisory Committee Meeting: Summary from Mentor

Student name:

Mentor name:

Meeting date:

Virtual or in person?

Please provide qualitative comments on the following aspects of the student's progress since the previous committee meeting:

Progress in Laboratory Experiments/Completing Specific Aims:

Grasp of underlying science concepts of project:

Knowledge of relevant literature:

Writing skills and maintenance of data/lab notes:

Oral presentation skills:

Initiative, work ethic, and independence in benchwork:

Creativity and independence in experimental design and troubleshooting:

Supervision of another's work, if any (e.g. undergrad volunteer):

Initiative and involvement in professional activities (GSO, attending scientific conferences, AAAS membership, helping with Discussion groups, etc):

Initiative and involvement with any collaborators:

Submission/acceptance of manuscripts (lead author or co-author):

Submission/funding of fellowship applications:

Plans for graduation and beyond (on track, preparing ahead):

Figure 1. University of Florida Graduate/Professional Program Assessment Plan Review Rubric

Related resources are found at <http://www.ua.assessment.edu>

Program:		Year:			
Component	Criterion	Rating			Comments
		Met	Partially Met	Not Met	
Mission Statement	Mission statement is articulated clearly.				
	The program mission clearly supports the College and University missions, and includes specific statements describing how it supports these missions.				
Student Learning Outcomes (SLOs) and Assessment Measures	SLOs are stated clearly.				
	SLOs focus on demonstration of student learning.				
	SLOs are measurable.				
	Measurements are appropriate for the SLO.				
Research	Research expectations for the program are clear, concise, and appropriate for the discipline.				
Assessment Map	The Assessment Map indicates the times in the program where the SLOs are assessed and measured.				
	The Assessment Map identifies the assessments used for each SLO.				
Assessment Cycle	The assessment cycle is clear.				
	All student learning outcomes are measured.				
	Data is collected at least once in the cycle.				
	The cycle includes a date or time period for data analysis and interpretation.				
	The cycle includes a date for planning improvement actions based on the data analysis.				
	The cycle includes a date for dissemination of results to the appropriate stakeholders.				

University of Florida Graduate/Professional Program Assessment Plan Review Rubric, continued

Component	Criterion	Rating			Comments
		Met	Partially Met	Not Met	
Measurement Tools	Measurement tools are described clearly and concisely.				
	Measurements are appropriate for the SLOs.				
	Methods and procedures reflect an appropriate balance of direct and indirect methods.				
	The report presents examples of at least one measurement tool.				
Assessment Oversight	Appropriate personnel (coordinator, committee, etc.) charged with assessment responsibilities are identified				